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Jamieson's advertising leaflets for "Mini-bingo-circa Jan 78 "Mini-bowl" "Royal flush" Bingo Wall Machine Bingo Upright Machine circa Jan. 76
(58) Field of search
A6H
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(54) **Game apparatus**

(57) A coin-operated entertainment machine, e.g. for bingo, has an enclosed front display area (defined between a back wall and a front glass 5) which contains means 11, e.g. a v.d.u. for displaying randomly selected indicia 12.

The selection of the indicia is effected by an object 19, which is propelled by a plunger 15, and which moves at random across the enclosed area deflected by pins 20 towards receptacles 13 and associated detectors.

An auxillary display 22 is provided.

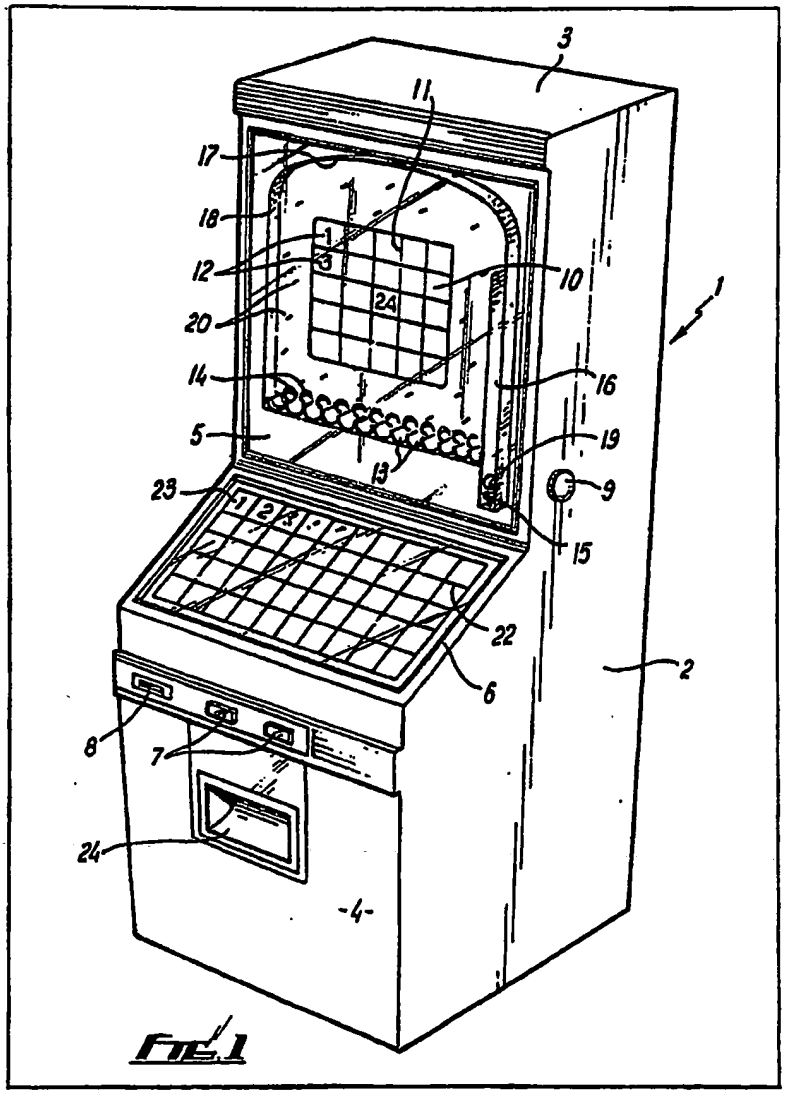

FIG.1

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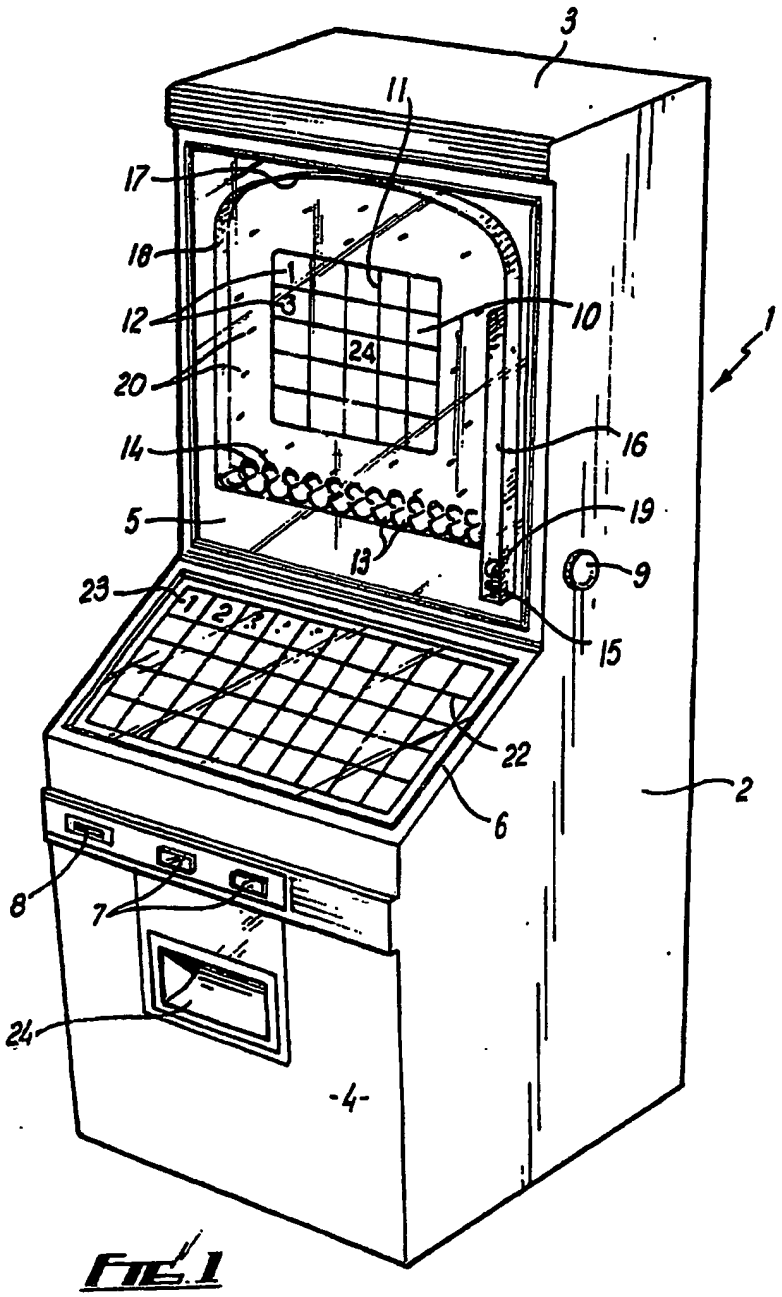

FIG. 1

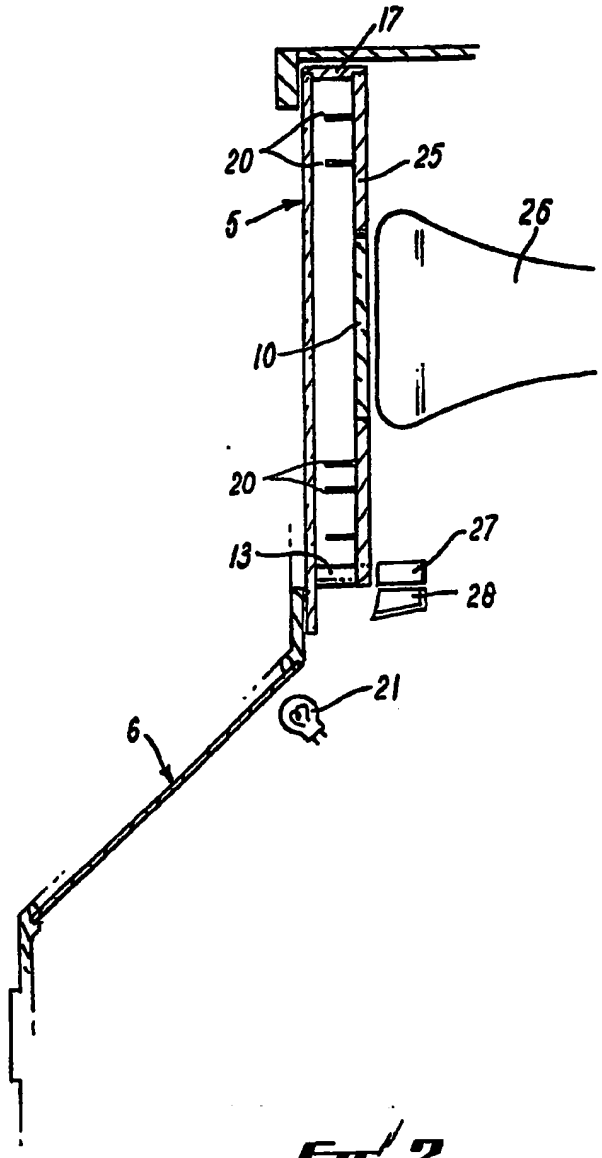

FIG. 2

SPECIFICATION
Entertainment machine

This invention relates to an entertainment machine, or gaming machine, of the kind which can be operated, after actuation thereof by insertion of one or more coins or tokens into a coin mechanism of the machine, to play games in which combinations of indicia are randomly derived and displayed, a pay-out being made available to the player in the event that any such combination is of a predetermined winning nature.

With a common form of entertainment machine of the kind described above, which is of the fruit machine type, the indicia are displayed on the peripheries of reels mounted behind a window in a cabinet of the machine, selection of the indicia being effected by means of a mechanism or circuit which permits rotation of the reels for different random periods of time before they are brought to rest.

With such fruit machine it is generally considered to be desirable that the reels should be visible as they rotate so that the player can be assured of the random nature of the operation of the machine, and also that the player should be capable of exerting some influence or apparent influence of a skilful nature on some aspect of the game.

An object of the present invention is to provide an entertainment machine of the kind described with which provision can be readily made for the abovementioned desirable features relating to player skill and to ready visibility of random indicia selection yet which presents an alternative format to that of the conventional fruit machine.

According to the invention therefore there is provided an entertainment machine of the kind described having electrical display apparatus at an enclosed display area visibly exposed to the player at the front of the machine with different zones thereto on which in use randomly selected said indicia can be displayed, and a mechanism for effecting said random selection of said indicia, characterised in that said random selection mechanism comprises means for causing at least one object to move on a random basis across said enclosed display area towards a plurality of actuator devices, and means for effecting display of said indicia on said display apparatus in correspondence with interaction of the or each said object with said actuator devices.

With this arrangement, the machine whilst being of the gaming kind, presents an alternative format to that of the conventional fruit machine. Also, in so far as the displayed win-determining indicia are selected as a consequence of the random movement of the or each said object across the said visibly-exposed area, it will be appreciated that the player can readily derive assurance as to the random nature of the selection process. Moreover, as required, provision can readily be made for the player to influence the random movement of the or each object as discussed in detail hereinafter.

With regard to the said display apparatus, this may take any suitable form as desired. In a preferred embodiment, however, the display apparatus is arranged to present said different display zones in grid or matrix format and conveniently therefore the apparatus may comprise a screen in conjunction with a system operable to actuate selectively different zones of the screen. Thus, the apparatus may comprise an arrangement of lamps behind a translucent screen with circuitry operable to illuminate the lamps; or, alternatively an electronic vdu screen in conjunction with circuitry operable to generate displayed indicia thereon may be used.

The arrangement may be such that predetermined indicia are associated respectively with the different zones, at least during the course of one game, and the random selection mechanism determines only which of the zones is to be actuated to effect display of the indicia thereat. Alternatively, the arrangement may be such that during the course of one game random selection can be made from a range of indicia for each zone.

With regard to the random selection mechanism, this may take any suitable form although, in a particularly preferred embodiment, said object comprises a readily, freely movable object such as a disc or a ball and, in use, this is allowed to fall from an entry region at an upper part of the said area towards receptacles at a lower part thereof, the said actuator devices being provided respectively in or adjacent said receptacles and being operable to detect the presence of said object in contact therewith or in close proximity thereto. The said actuator devices may comprise electrical microswitches, reed switches, optical switches or any other suitable devices. Obstructions are preferably provided in the area between the entry region and the receptacles to deflect the falling object thereby to facilitate randomness in the manner in which the object reaches the receptacles. Conveniently, the obstructions may comprise pins in a board forming a back wall of the area through which the object falls.

The receptacles may be associated respectively with different said zones or with different said indicia as desired. Multiple objects may be provided and these may be allowed to fall together or in succession. Alternatively there may be a single object (or a small number of objects) used repeatedly during a game.

In order to permit the exercise (or apparent exercise) of skill, provision may be made for the player to influence the manner in which the or each object falls from the said entry region in terms of speed and/or angle and/or starting location. For example, the object may comprise a ball which is impelled with a spring device up to the said entry region, the arrangement being such that the upward trajectory of the ball and consequently the parameters of its subsequent fall can be influenced by the manner in which the player operates the spring device.

The said area of the random selection mechanism is preferably immediately adjacent or overlapping the said display apparatus. In the latter respect, in a particularly preferred embodiment, the said area is bounded at the front by a glass or similar transparent wall and is bounded at the rear by a wall which includes the said display apparatus whereby the display apparatus can be viewed through said front wall and the or each said object can move across the front of the display apparatus towards the said actuating devices.

The machine may have a floor-standing cabinet generally like that of a conventional fruit machine.

Any suitable game may be played with the machine and, correspondingly win-assessment may be effected in any suitable manner. However, in one embodiment, a "bingo" type game is played in that the display apparatus shows a grid of indicia, preferably numbers, and the random selection mechanism operates to select such indicia, which are then distinguished on the display apparatus for example by illumination thereof, a win indication being derived in the event that a line of distinguished indicia or other similar bingo-type combination is attained. In this context, provision may be made for changing the initially-displayed grid of indicia between games.

The machine may also incorporate auxiliary features to improve the display and/or to extend the range of player controls. Thus, for example, the machine may have an auxiliary display on which all selected indicia are recorded, this possibly being desirable in the abovementioned bingo context where indicia may be selected which are not present on the main display apparatus. Also, provision may be made for permitting on a predetermined or random basis, adjustment of an attained display for example by interchanging displayed indicia. Similarly, on a random or predetermined basis, after attaining a win, the player may be given the opportunity of a "double or nothing" or similar gamble.

The invention will now be described further by way of example only and with reference to the accompanying drawings in which:—

Figure 1 is a front perspective view of one form of an entertainment machine according to the invention; and

Figure 2 is a sectional view through an upper front part of the machine.

The entertainment machine shown in the drawings is a "bingo" gaming machine and comprises a closed floor-standing cabinet 1 having side walls 2, a top wall 3, a lower front wall 4, a bottom wall and a back wall (both not visible in the drawings), and an upper front wall 5. The upper front wall 5 is set back relative to the lower front wall 4 and a rearwardly inclined intermediate front wall 6 extends between these. All walls are formed from veneered plywood or chipboard or similar rigid material except for the front walls 5, 6 which are formed wholly or largely from sheet glass. At appropriate positions on the cabinet 1 there are various player-operable controls such as press buttons 7, a coin slot 8 and a plunger control 9 yet to be described.

The upper front wall 5 comprises a transparent glass sheet and behind this there is an opaque back board 25 (Figure 2) having a central rectangular display region 10 comprising a transparent glass sheet coplanar with the board 25. Behind this sheet 10 there is mounted an electronic visual display unit 26 (such as a cathode ray tube) so that the front screen of the vdu, which is approximately the same size and shape as the sheet 10, is clearly visible through the sheet 10. The vdu 26 is connected to an electronic control system (not shown) which is operable to cause the vdu screen to display a 5 x 5 grid 11 and numbers 12 in the spaces of the grid 11 (only some of which are shown).

At the bottom of the back board 25 there is a horizontal row of upwardly open rearwardly inclined part-cylindrical receptacles 13 which communicate with holes 14 through the back board. At the rear of the back board the receptacles 13 have respective optical proximity detectors 27 each comprising a spaced light source and a light-sensitive electronic device arranged such that illumination of the device by the light source can be interrupted by the presence of an object at the back end of the pertaining receptable thereby to cause the device to produce an electrical output.

At one side behind the wall 5 there is a spring-loaded plunger 15 at hte bottom of a vertical channel 16 fixed to the front of the back board 25. The top of this channel 16 communicates with a top curved boundary structure 17 and there is a further boundary structure 18 at the opposite side. The receptacles 13 are in communication within the machine via a downwardly inclined passage 28 with an opening 19 immediately above the plunger 15 and a metal ball is provided which can freely pass along the receptacles 13 and from there via the said passage through the hole 19 to a position on top of the plunger 15. The plunger 15 is connected via a mechanical linkage to the aforesaid manual control 9 accessible externally of the machine. In the area between the receptacles 13, the boundary structures 17, 18 and the channel 16, pins 20 are fixed into the board and project horizontally in front of same.

The intermediate wall 6 comprises a translucent glass sheet divided by marked lines into a grid 22 of squares, and a different number 23 is marked within each square. Behind each square there is a respective lamp 21 (Figure 2) which when operated acts to illuminate the pertaining marked number 23.

The receptacles 13 relate respectively to different numbers which can be selected, for example, the numbers 1 to 50, and the same numbers are marked in succession in the grid 22. A random selection of 25 of these numbers is displayed in the grid 11 in random sequence.

The aforesaid electronic control system within the machine which may be microprocessor-based, is capable of controlling all operations of the

machine and is therefore connected via appropriate interface devices to all electrical components (such as the coin mechanism, the control button 7, the detectors 27, the lamps 21, the vdu 26 etc.).

In use, after actuation of the machine by insertion of one or more coins or tokens into the slot 8, the ball is delivered to the position at which it rests on top of the plunger 15. The player can now operate the plunger via the manual control 9 to cause the ball to be fired up the channel 16 to the top boundary structure 17 from where it then falls downwardly towards the receptacles 13. The pins 20 deflect the ball from side to side as it falls.

Ultimately the ball falls into one of the receptacles 13 and operates the pertaining actuating device 27. This causes the pertaining lamp 21 to be operated in the grid 22 and, if the corresponding number is also present in the grid 11, the number is appropriately distinguished in the grid 11, for example, by display of a line or cross through the number 12 on the screen of the vdu 26 or otherwise as desired. The ball then returns to its position on top of the plunger 15. The procedure can then be repeated a predetermined number of times before the game ends.

At the end of the game the ball is not returned but is held captive behind the back board 25 and the combination of numbers distinguished on the grid 11 is evaluated electronically by the control system. In the event that this combination is of a predetermined winning nature in that for example a line of numbers is illuminated, a pay-out mechanism within the machine is actuated and an appropriate number of coins or tokens is dispensed to the player through an outlet 24 in the front wall 4.

With this arrangement, due to the use of the visibly falling ball to select the numbers to be displayed, the player can be assured of the randomness of such selection. Also, by appropriate manipulation of the manual control 9, the player can vary the movement of the plunger and hence the trajectory of the ball as it leaves the top of the channel 16 and thereby seek, by the exercise of skill, to influence the number selection process. The ball falls with an enclosed display area defined between the back board 25 and the clear glass sheet of the front wall 5. The screen of the vdu 26 forms a significant central part of the rear boundary of this area whereby the ball will tend to move downwardly across and in front of the screen especially in so far as the ball will tend to drop at the end of its trajectory or after bounding off a pin near the boundary 18 at a location generally directly above the centre of the vdu screen. This gives a particularly appealing effect in that the vdu display and the randomly falling ball become intimately associated in the mind of the player.

The machine, in like manner to a conventional fruit machine is contained within a floor-standing cabinet and dispenses coins or tokens when a win is obtained, yet the machine is otherwise different from and therefore presents to the player an alternative to such conventional machine.

The machine may incorporate further auxiliary features as desired such as one or both of the following:

1. a gamble control which when operated on attainment of a win permits the player to gamble on a "double or nothing" or similar basic;

2. an adjustment control (e.g. in the form of a joystick) which can be operated at the end of a game to change the combination of distinguished members in the grid 11 with the aim of improving the combination. For example, it may be possible on a random basis to replace distinguishing of one or more members with distinguishing of an adjacent member in a selected direction or possibly in any direction.

The electronically controlled vdu 26 advantageously permits convenient use of an adjustment control as mentioned above, and also there is the possibility of changing the fixed numbers on the top screen between games on an automatic or player-initiated basis as desired.

It is of course to be understood that the invention is not intended to be restricted to the details of the above embodiment which are described by way of example only.

Thus, for example, the grid 22 may be replaced with a vdu display in like manner to the vdu 26. If desired it is even possible to use a back illuminated translucent grid (like the grid 22) in place of the vdu 26, although this may be less advantageous.

Moreover, the invention is not intended to be restricted to a bingo type game but may be applied to other games involving the random selection of indicia to be displayed to the player such as roulette even dominoes, or other games.

CLAIMS

1. An entertainment machine of the kind described having electrical display apparatus at an enclosed display area visibly exposed to the player at the front of the machine with different zones thereto on which in use randomly selected said indicia can be displayed, and a mechanism for effecting said random selection of said indicia, characterised in that said random selection mechanism comprises means for causing at least one object to move on a random basis across said enclosed display area towards a plurality of actuator devices, and means for effecting display of said indicia on said display apparatus in correspondence with interaction of the or each said object with said actuator devices.

2. A machine according to claim 1, characterised in that said enclosed area is defined between a back wall and a transparent front wall, said electrical display apparatus having a front screen thereto in said back wall.

3. A machine according to claim 1 or 2, characterised in that said electrical display apparatus comprises an electronic visual display unit.

4. A machine according to any one of claims 1

to 3, characterised in that said object is free to move across said zones of said display apparatus towards said actuator devices.

5. A machine according to any one of claims 1 to 4, characterised in that said object of said random selection mechanism is arranged to fall from an entry region at an upper part of said area towards receptacles at a lower part thereof, the said actuator devices being provided respectively in or adjacent said receptacles and being operable to detect the presence of said object in contact therewith or in close proximity thereto.

6. A machine according to claim 5, characterised in that said object comprises a ball which can be impelled with a player-operable spring device up to said entry region.

7. A machine according to claim 5 or 6, characterised in that obstructions are provided in said area between the entry region and the receptacles to deflect the falling object.

8. A machine according to any one of claims 1 to 7, characterised in that said display zones are arranged in grid or matrix format.

9. A machine according to any one of claims 1 to 8, characterised in that an auxiliary display is provided beyond said enclosed area.

10. A machine substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

New claims or amendments to claims filed on

Superseded claims 1 to 10
New or amended claims:—

1. An entertainment machine of the kind described having electrical display apparatus at an enclosed display area visibly exposed to the player at the front of the machine with different zones thereto on which in use randomly selected said indicia can be displayed, a mechanism for effecting said random selection of said indicia comprising means for delivering at least one object to an entry region at an upper part of said display area so as to fall towards receptacles provided with actuator devices at a lower part of said display area, obstructions being provided in said display area between the entry region and the receptacles to deflect the falling object, and means for effecting display of said indicia on said display apparatus in correspondence with interaction of the or each said object with said actuator devices, characterised in that said electrical display apparatus extends below said entry region and is arranged in relation to said obstructions so that said object can be deflected as aforesaid across said zones of said electrical display apparatus.

2. A machine according to claim 1, characterised in that said enclosed area is defined between a back wall and a transparent front wall, said electrical display apparatus having a front screen thereto in said back wall.

3. A machine according to claim 1 or 2, characterised in that said electrical display apparatus comprises an electronic visual display unit.

4. A machine according to any one of claims 1 to 3, characterised in that said actuator devices are provided respectively in or adjacent said receptacles and are operable to detect the presence of said object in contact therewith or in close proximity thereto.

5. A machine according to any one of claims 1 to 4, characterised in that said object comprises a ball which can be impelled with a player-operable spring device up to said entry region.

6. A machine according to any one of claims 1 to 5, characterised in that said display zones are arranged in grid or matrix format.

7. A machine according to any one of claims 1 to 6, characterised in that an auxiliary display is provided beyond said enclosed area.

8. A machine substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

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Jamieson's advertising leaflets for "Mini-bingo-circa Jan 78 "Mini-bowl" "Royal flush" Bingo Wall Machine Bingo Upright Machine circa Jan. 78
(58) Field of search
A6H

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(54) **Game apparatus**

(57) A coin-operated entertainment machine, e.g. for bingo, has an enclosed front display area (defined between a back wall and a front glass 5) which contains means 11, e.g. a v.d.u. for displaying randomly selected indicia 12.

The selection of the indicia is effected by an object 19, which is propelled by a plunger 15, and which moves at random across the enclosed area deflected by pins 20 towards receptacles 13 and associated detectors.

An auxillary display 22 is provided.

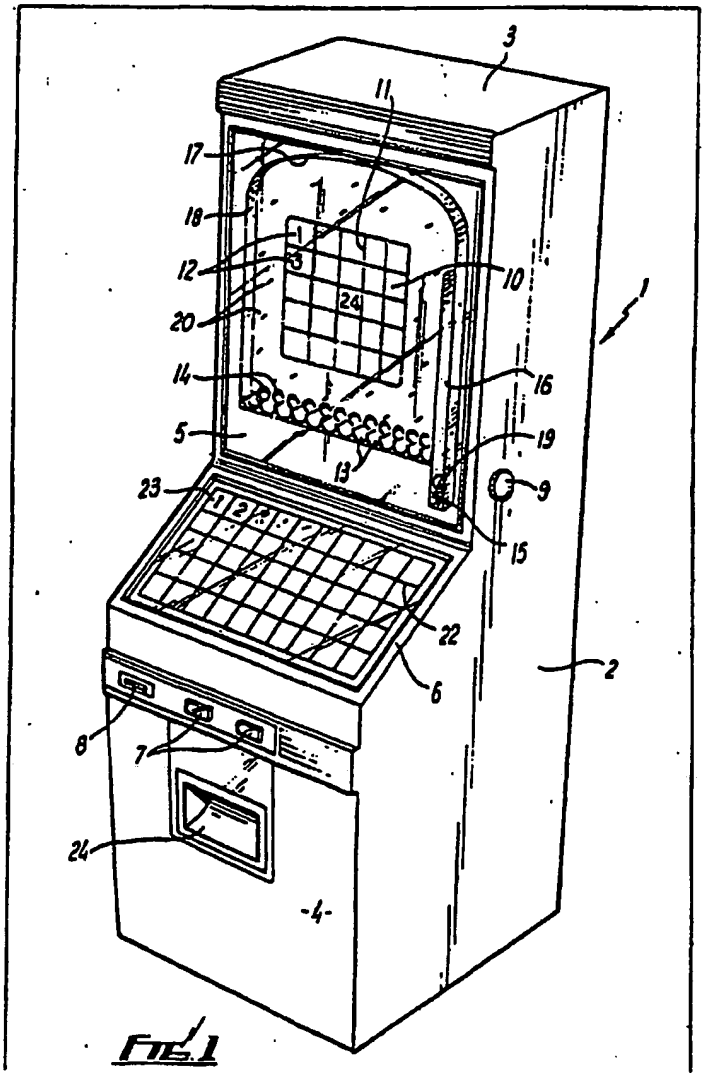

FIG.1

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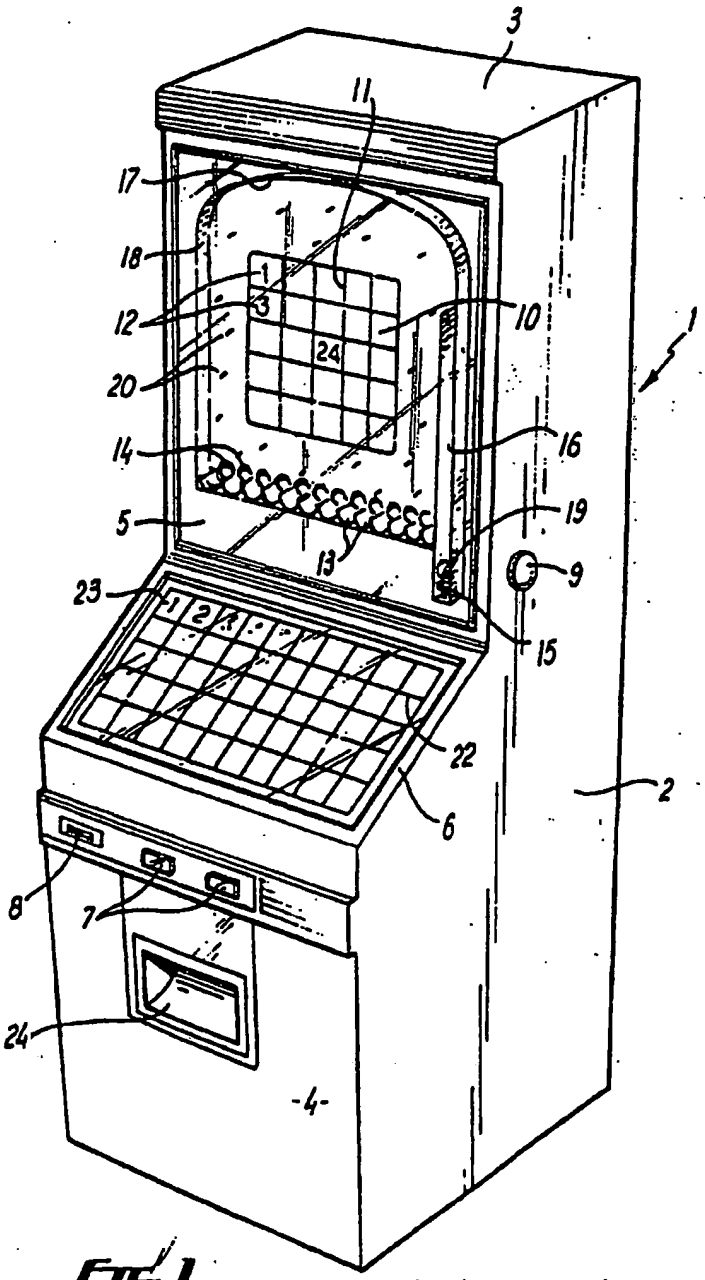

FIG. 1

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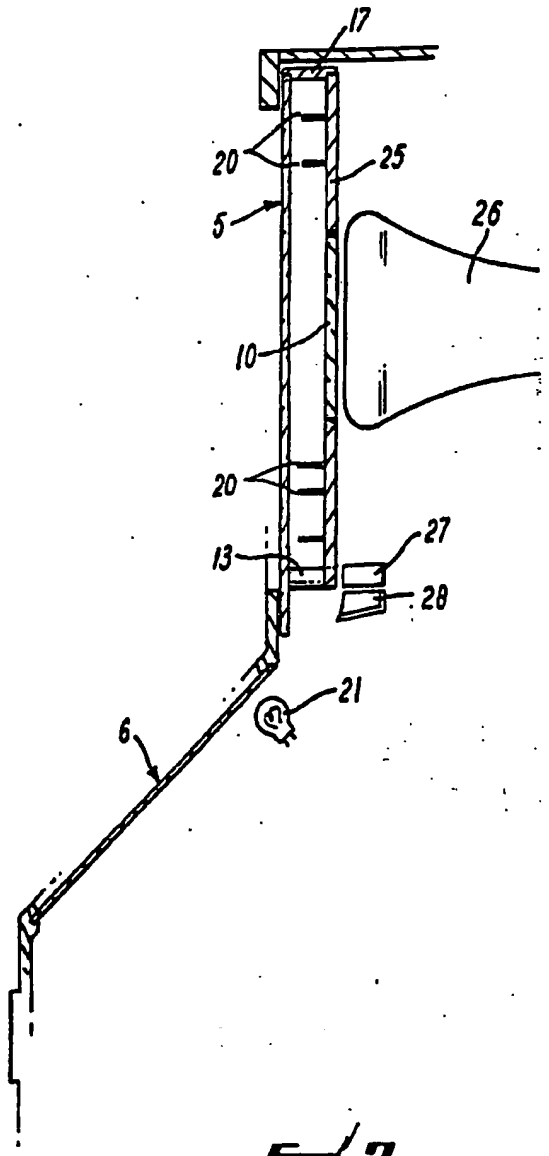

FIG. 2

SPECIFICATION
Entertainment machine

This invention relates to an entertainment machine, or gaming machine, of the kind which can be operated, after actuation thereof by insertion of one or more coins or tokens into a coin mechanism of the machine, to play games in which combinations of indicia are randomly derived and displayed, a pay-out being made available to the player in the event that any such combination is of a predetermined winning nature.

With a common form of entertainment machine of the kind described above, which is of the fruit machine type, the indicia are displayed on the peripheries of reels mounted behind a window in a cabinet of the machine, selection of the indicia being effected by means of a mechanism or circuit which permits rotation of the reels for different random periods of time before they are brought to rest.

With such fruit machine it is generally considered to be desirable that the reels should be visible as they rotate so that the player can be assured of the random nature of the operation of the machine, and also that the player should be capable of exerting some influence or apparent influence of a skilful nature on some aspect of the game.

An object of the present invention is to provide an entertainment machine of the kind described with which provision can be readily made for the abovementioned desirable features relating to player skill and to ready visibility of random indicia selection yet which presents an alternative format to that of the conventional fruit machine.

According to the invention therefore there is provided an entertainment machine of the kind described having electrical display apparatus at an enclosed display area visibly exposed to the player at the front of the machine with different zones thereto on which in use randomly selected said indicia can be displayed, and a mechanism for effecting said random selection of said indicia, characterised in that said random selection mechanism comprises means for causing at least one object to move on a random basis across said enclosed display area towards a plurality of actuator devices, and means for effecting display of said indicia on said display apparatus in correspondence with interaction of the or each said object with said actuator devices.

With this arrangement, the machine whilst being of the gaming kind, presents an alternative format to that of the conventional fruit machine. Also, in so far as the displayed win-determining indicia are selected as a consequence of the random movement of the or each said object across the said visibly-exposed area, it will be appreciated that the player can readily derive assurance as to the random nature of the selection process. Moreover, as required, provision can readily be made for the player to influence the random movement of the or each object as

With regard to the said display apparatus, this may take any suitable form as desired. In a preferred embodiment, however, the display apparatus is arranged to present said different display zones in grid or matrix format and conveniently therefore the apparatus may comprise a screen in conjunction with a system operable to actuate selectively different zones of the screen. Thus, the apparatus may comprise an arrangement of lamps behind a translucent screen with circuitry operable to illuminate the lamps; or, alternatively an electronic vdu screen in conjunction with circuitry operable to generate displayed indicia thereon may be used.

The arrangement may be such that predetermined indicia are associated respectively with the different zones, at least during the course of one game, and the random selection mechanism determines only which of the zones is to be actuated to effect display of the indicia thereat. Alternatively, the arrangement may be such that during the course of one game random selection can be made from a range of indicia for each zone.

With regard to the random selection mechanism, this may take any suitable form although, in a particularly preferred embodiment, said object comprises a readily, freely movable object such as a disc or a ball and, in use, this is allowed to fall from an entry region at an upper part of the said area towards receptacles at a lower part thereof, the said actuator devices being provided respectively in or adjacent said receptacles and being operable to detect the presence of said object in contact therewith or in close proximity thereto. The said actuator devices may comprise electrical microswitches, reed switches, optical switches or any other suitable devices. Obstructions are preferably provided in the area between the entry region and the receptacles to deflect the falling object thereby to facilitate randomness in the manner in which the object reaches the receptacles. Conveniently, the obstructions may comprise pins in a board forming a back wall of the area through which the object falls.

The receptacles may be associated respectively with different said zones or with different said indicia as desired. Multiple objects may be provided and these may be allowed to fall together or in succession. Alternatively there may be a single object (or a small number of objects) used repeatedly during a game.

In order to permit the exercise (or apparent exercise) of skill, provision may be made for the player to influence the manner in which the or each object falls from the said entry region in terms of speed and/or angle and/or starting location. For example, the object may comprise a ball which is impelled with a spring device up to the said entry region, the arrangement being such that the upward trajectory of the ball and consequently the parameters of its subsequent fall can be influenced by the manner in which the

The said area of the random selection mechanism is preferably immediately adjacent or overlapping the said display apparatus. In the latter respect, in a particularly preferred embodiment, the said area is bounded at the front by a glass or similar transparent wall and is bounded at the rear by a wall which includes the said display apparatus whereby the display apparatus can be viewed through said front wall and the or each said object can move across the front of the display apparatus towards the said actuating devices.

The machine may have a floor-standing cabinet generally like that of a conventional fruit machine.

Any suitable game may be played with the machine and, correspondingly win-assessment may be effected in any suitable manner. However, in one embodiment, a "bingo" type game is played in that the display apparatus shows a grid of indicia, preferably numbers, and the random selection mechanism operates to select such indicia, which are then distinguished on the display apparatus for example by illumination thereof, a win indication being derived in the event that a line of distinguished indicia or other similar bingo-type combination is attained. In this context, provision may be made for changing the initially-displayed grid of indicia between games.

The machine may also incorporate auxiliary features to improve the display and/or to extend the range of player controls. Thus, for example, the machine may have an auxiliary display on which all selected indicia are recorded, this possibly being desirable in the abovementioned bingo context where indicia may be selected which are not present on the main display apparatus. Also, provision may be made for permitting on a predetermined or random basis, adjustment of an attained display for example by interchanging displayed indicia. Similarly, on a random or predetermined basis, after attaining a win, the player may be given the opportunity of a "double or nothing" or similar gamble.

The invention will now be described further by way of example only and with reference to the accompanying drawings in which:—

Figure 1 is a front perspective view of one form of an entertainment machine according to the invention; and

Figure 2 is a sectional view through an upper front part of the machine.

The entertainment machine shown in the drawings is a "bingo" gaming machine and comprises a closed floor-standing cabinet 1 having side walls 2, a top wall 3, a lower front wall 4, a bottom wall and a back wall (both not visible in the drawings), and an upper front wall 5. The upper front wall 5 is set back relative to the lower front wall 4 and a rearwardly inclined intermediate front wall 6 extends between these. All walls are formed from veneered plywood or chipboard or similar rigid material except for the front walls 5, 6 which are formed wholly or largely from sheet press buttons 7, a coin slot 8 and a plunger control 9 yet to be described.

The upper front wall 5 comprises a transparent glass sheet and behind this there is an opaque back board 25 (Figure 2) having a central rectangular display region 10 comprising a transparent glass sheet coplanar with the board 25. Behind this sheet 10 there is mounted an electronic visual display unit 26 (such as a cathode ray tube) so that the front screen of the vdu, which is approximately the same size and shape as the sheet 10, is clearly visible through the sheet 10. The vdu 26 is connected to an electronic control system (not shown) which is operable to cause the vdu screen to display a 5 x 5 grid 11 and numbers 12 in the spaces of the grid 11 (only some of which are shown).

At the bottom of the back board 25 there is a horizontal row of upwardly open rearwardly inclined part-cylindrical receptacles 13 which communicate with holes 14 through the back board. At the rear of the back board the receptacles 13 have respective optical proximity detectors 27 each comprising a spaced light source and a light-sensitive electronic device arranged such that illumination of the device by the light source can be interrupted by the presence of an object at the back end of the pertaining receptable thereby to cause the device to produce an electrical output.

At one side behind the wall 5 there is a spring-loaded plunger 15 at hte bottom of a vertical channel 16 fixed to the front of the back board 25. The top of this channel 16 communicates with a top curved boundary structure 17 and there is a further boundary structure 18 at the opposite side. The receptacles 13 are in communication within the machine via a downwardly inclined passage 28 with an opening 19 immediately above the plunger 15 and a metal ball is provided which can freely pass along the receptacles 13 and from there via the said passage through the hole 19 to a position on top of the plunger 15. The plunger 15 is connected via a mechanical linkage to the aforesaid manual control 9 accessible externally of the machine. In the area between the receptacles 13, the boundary structures 17, 18 and the channel 16, pins 20 are fixed into the board and project horizontally in front of same.

The intermediate wall 6 comprises a translucent glass sheet divided by marked lines into a grid 22 of squares, and a different number 23 is marked within each square. Behind each square there is a respective lamp 21 (Figure 2) which when operated acts to illuminate the pertaining marked number 23.

The receptacles 13 relate respectively to different numbers which can be selected, for example, the numbers 1 to 50, and the same numbers are marked in succession in the grid 22. A random selection of 25 of these numbers is displayed in the grid 11 in random sequence.

machine and is therefore connected via appropriate interface devices to all electrical components (such as the coin mechanism, the control button 7, the detectors 27, the lamps 21, the vdu 26 etc.).

In use, after actuation of the machine by insertion of one or more coins or tokens into the slot 8, the ball is delivered to the position at which it rests on top of the plunger 15. The player can now operate the plunger via the manual control 9 to cause the ball to be fired up the channel 16 to the top boundary structure 17 from where it then falls downwardly towards the receptacles 13. The pins 20 deflect the ball from side to side as it falls.

Ultimately the ball falls into one of the receptacles 13 and operates the pertaining actuating device 27. This causes the pertaining lamp 21 to be operated in the grid 22 and, if the corresponding number is also present in the grid 11; the number is appropriately distinguished in the grid 11, for example, by display of a line or cross through the number 12 on the screen of the vdu 26 or otherwise as desired. The ball then returns to its position on top of the plunger 15. The procedure can then be repeated a predetermined number of times before the game ends.

At the end of the game the ball is not returned but is held captive behind the back board 25 and the combination of numbers distinguished on the grid 11 is evaluated electronically by the control system. In the event that this combination is of a predetermined winning nature in that for example a line of numbers is illuminated, a pay-out mechanism within the machine is actuated and an appropriate number of coins or tokens is dispensed to the player through an outlet 24 in the front wall 4.

With this arrangement, due to the use of the visibly falling ball to select the numbers to be displayed, the player can be assured of the randomness of such selection. Also, by appropriate manipulation of the manual control 9, the player can vary the movement of the plunger and hence the trajectory of the ball as it leaves the top of the channel 16 and thereby seek, by the exercise of skill, to influence the number selection process. The ball falls with an enclosed display area defined between the back board 25 and the clear glass sheet of the front wall 5. The screen of the vdu 26 forms a significant central part of the rear boundary of this area whereby the ball will tend to move downwardly across and in front of the screen especially in so far as the ball will tend to drop at the end of its trajectory or after bounding off a pin near the boundary 18 at a location generally directly above the centre of the vdu screen. This gives a particularly appealing effect in that the vdu display and the randomly falling ball become intimately associated in the mind of the player.

The machine, in like manner to a conventional fruit machine is contained within a floor-standing from and therefore presents to the player an alternative to such conventional machine.

The machine may incorporate further auxiliary features as desired such as one or both of the following:

1. a gamble control which when operated on attainment of a win permits the player to gamble on a "double or nothing" or similar basic;

2. an adjustment control (e.g. in the form of a joystick) which can be operated at the end of a game to change the combination of distinguished members in the grid 11 with the aim of improving the combination. For example, it may be possible on a random basis to replace distinguishing of one or more members with distinguishing of an adjacent member in a selected direction or possibly in any direction.

The electronically controlled vdu 26 advantageously permits convenient use of an adjustment control as mentioned above, and also there is the possibility of changing the fixed numbers on the top screen between games on an automatic or player-initiated basis as desired.

It is of course to be understood that the invention is not intended to be restricted to the details of the above embodiment which are described by way of example only.

Thus, for example, the grid 22 may be replaced with a vdu display in like manner to the vdu 26. If desired it is even possible to use a back illuminated translucent grid (like the grid 22) in place of the vdu 26, although this may be less advantageous.

Moreover, the invention is not intended to be restricted to a bingo type game but may be applied to other games involving the random selection of indicia to be displayed to the player such as roulette even dominoes, or other games.

CLAIMS

1. An entertainment machine of the kind described having electrical display apparatus at an enclosed display area visibly exposed to the player at the front of the machine with different zones thereto on which in use randomly selected said indicia can be displayed, and a mechanism for effecting said random selection of said indicia, characterised in that said random selection mechanism comprises means for causing at least one object to move on a random basis across said enclosed display area towards a plurality of actuator devices, and means for effecting display of said indicia on said display apparatus in correspondence with interaction of the or each said object with said actuator devices.

2. A machine according to claim 1, characterised in that said enclosed area is defined between a back wall and a transparent front wall, said electrical display apparatus having a front screen thereto in said back wall.

3. A machine according to claim 1 or 2, characterised in that said electrical display apparatus comprises an electronic visual display

to 3, characterised in that said object is free to move across said zones of said display apparatus towards said actuator devices.

5. A machine according to any one of claims 1 to 4, characterised in that said object of said random selection mechanism is arranged to fall from an entry region at an upper part of said area towards receptacles at a lower part thereof, the said actuator devices being provided respectively in or adjacent said receptacles and being operable to detect the presence of said object in contact therewith or in close proximity thereto.

6. A machine according to claim 5, characterised in that said object comprises a ball which can be impelled with a player-operable spring device up to said entry region.

7. A machine according to claim 5 or 6, characterised in that obstructions are provided in said area between the entry region and the receptacles to deflect the falling object.

8. A machine according to any one of claims 1 to 7, characterised in that said display zones are arranged in grid or matrix format.

9. A machine according to any one of claims 1 to 8, characterised in that an auxiliary display is provided beyond said enclosed area.

10. A machine substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

New claims or amendments to claims filed on

Superseded claims 1 to 10
New or amended claims:—

1. An entertainment machine of the kind described having electrical display apparatus at an enclosed display area visibly exposed to the player at the front of the machine with different zones thereto on which in use randomly selected said indicia can be displayed, a mechanism for effecting said random selection of said indicia comprising means for delivering at least one object to an entry region at an upper part of said display area so as to fall towards receptacles provided with actuator devices at a lower part of said display area, obstructions being provided in said display area between the entry region and the receptacles to deflect the falling object, and means for effecting display of said indicia on said display apparatus in correspondence with interaction of the or each said object with said actuator devices, characterised in that said electrical display apparatus extends below said entry region and is arranged in relation to said obstructions so that said object can be deflected as aforesaid across said zones of said electrical display apparatus.

2. A machine according to claim 1, characterised in that said enclosed area is defined between a back wall and a transparent front wall, said electrical display apparatus having a front screen thereto in said back wall.

3. A machine according to claim 1 or 2, characterised in that said electrical display apparatus comprises an electronic visual display unit.

4. A machine according to any one of claims 1 to 3, characterised in that said actuator devices are provided respectively in or adjacent said receptacles and are operable to detect the presence of said object in contact therewith or in close proximity thereto.

5. A machine according to any one of claims 1 to 4, characterised in that said object comprises a ball which can be impelled with a player-operable spring device up to said entry region.

6. A machine according to any one of claims 1 to 5, characterised in that said display zones are arranged in grid or matrix format.

7. A machine according to any one of claims 1 to 6, characterised in that an auxiliary display is provided beyond said enclosed area.

8. A machine substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.

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